DOCUMENT RESUME

ED 449 950 RC 022 813

AUTHOR LLamas, Vicente J.
TITLE UCAN: A Four-State Rural Systemic Initiative. Year Three Performance Effectiveness Review (PER).
INSTITUTION New Mexico Highlands Univ., Las Vegas, NM. UCAN Rural Systemic Initiative.
SPONS AGENCY National Science Foundation, Arlington, VA. Division of Educational System Reform.
PUB DATE 1999-01-26
NOTE 43p.; For Year 2 Performance Effectiveness Review, see RC 022 812.
AVAILABLE FROM Full text at Web site: http://ucanrsi.nmhu.edu/reports.html.
PUB TYPE Reports - Evaluative (142)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS American Indian Education; *Educational Change; Elementary Secondary Education; Mathematics Achievement; *Mathematics Education; Mexican American Education; *Program Effectiveness; Program Evaluation; *Rural Education; Science Achievement; *Science Education
IDENTIFIERS Arizona; Colorado; New Mexico; Performance Indicators; *Systemic Educational Reform; Utah

ABSTRACT

The Utah, Colorado, Arizona, New Mexico-Rural Systemic Initiative (UCAN-RSI) supports systemic reform of mathematics, technology, and science education for rural students in its states, focusing on schools with high enrollments of American Indian and Hispanic students. This performance effectiveness review covers UCAN's progress during its third year (September 1997-August 1998). During year 3, UCAN worked with 124 focal schools enrolling 36,656 students with 43 percent being American Indian and 41 percent being Hispanic. An introductory section outlines UCAN's approach to sustainable systemic reform, seven criteria defining "focal schools," and the benchmarks used by UCAN's six coalitions to assess their progress toward "full implementation" of reform. These benchmarks are in the areas of curriculum and assessment, policy, resource convergence, community support, student achievement, and achievement of women and minority groups. Section 1 outlines UCAN's impact on teachers, students, and schools. Section 2 describes UCAN's influence on the system in terms of resource convergence; policy changes to graduation requirements, professional development requirements, teacher certification requirements, and accountability; administrative changes; data utilization; implementation of standards-based curriculum; student-teacher-curriculum interactions; the system context of math and science education; and UCAN partnerships. Section 3 presents math and science achievement data for UCAN schools. Appendixes present supplementary data on areas covered in the report, selected data on UCAN states by Education Week, and examples from schools/districts in UCAN's six coalitions. (SV)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 449 950

UCAN-RSI
New Mexico Highlands University
P. O. Box 9000
Las Vegas, NM 87701
Ph: 505-454-3544***FAX: 505-454-3005

UTAH * COLORADO * ARIZONA * NEW MEXICO

UCAN
A FOUR-STATE
RURAL SYSTEMIC INITIATIVE

Year Three

Performance Effectiveness Review (PER)

January 26, 1999

BEST COPY AVAILABLE

Dr. Vicente J. LLamas, Principal Investigator
Elizabeth A. Yost, Program Director

RC 022813

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Elizabeth H. Yost
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

TABLE OF CONTENTS

PROGRAM OUTLINE **1**

Figure 1: UCAN Sustaining Structures *1*

DEFINITION OF FULL IMPLEMENTATION 2

FULL IMPLEMENTATION IN THE CLASSROOM 2

SECTION I: OVERVIEW OF THE SYSTEM **3**

DEMOGRAPHICS AND CURRENT STATUS 3

Teacher Impact: *3*

Student Impact: *3*

School Impact: *4*

SECTION II: RSI INFLUENCE ON THE SYSTEM **4**

RESOURCE CHANGES 4

Figure 6: Resource Convergence - 3rd Year *4*

Figure 7: Resource Convergence - Growth in Selected Areas *5*

POLICY CHANGES 6

Table 1: Graduation Requirements *6*

Table 2: Professional Development Requirements *6*

Table 3: Teacher Certification Requirements *7*

Table 4: Assessment / Accountability *7*

MANAGEMENT CHANGES 8

DATA UTILIZATION 9

IMPLEMENTATION OF STANDARDS BASED CURRICULUM: (A), (B), & (C) 10

IMPLEMENTATION OF STANDARDS BASED CURRICULUM: (D), (E), & (F) 11

SYSTEM ENVIRONMENT/CONTEXT 12

PARTNERSHIPS 14

SECTION III: OUTPUTS AND OUTCOMES **14**

STUDENT PERFORMANCE 14

Figure 9 : AP Math & Science Exams Taken per 1000 Juniors/Seniors by Exam and Year in UCAN Targeted High Schools *14*

Figure 10: 1997-98 Arizona Stanford 9 Math Results - UCAN Participating and Eligible (non-targeted) Schools *15*

Figure 11: Percent of Grade 9-12 Students Receiving an A, B, or C by Gender - Targeted Longitudinal Schools Only : Selected Math/Science Courses for Fall, 1997 Compared to Fall, 1996 ..... *16*

Figure 12: Percent of Grade 9-12 Students Receiving an A, B, or C by Ethnicity: Targeted Longitudinal Schools Only: Selected Math/Science Courses for Fall, 1997 Compared to Fall, 1996 ..... *17*

Figure 13: Percent of Grades 9-12 Students Enrolled by Gender and Ethnicity - Targeted Longitudinal Schools: Only Selected Math/Science Courses for Fall, 1997 Compared to Fall, 1996 ..... *18*

SUMMARY PRESENTATION OF PROGRESS **19**

APPENDIX I: FULL IMPLEMENTATION **21**

CURRICULUM AND ASSESSMENT 21

POLICY 21

RESOURCE CONVERGENCE 22

COMMUNITY SUPPORT 22

STUDENT ATTAINMENT 23

UNDER-REPRESENTED STUDENT ATTAINMENT 23

APPENDIX II: DEMOGRAPHICS & CURRENT STATUS.....25

Figure 2: Teachers in UCAN Focal Schools.....25
Figure 3: Students in UCAN Focal Schools.....25
Figure 4: UCAN Targeted Districts.....26
Figure 5: UCAN Participating Schools (percentage) by Years of Involvement.....26

APPENDIX III: EXAMPLES OF RESOURCE CONVERGENCE.....27

APPENDIX IV: EXAMPLES OF POLICY CHANGES.....29

APPENDIX V: DATA POOL COMPONENTS.....30

Figure 8: Data Pool Components.....30

APPENDIX VI: SELECTED DATA ON UCAN STATES BY EDUCATION WEEK.....31

Table 5: Selected Information Comparing UCAN States Education Week -- Quality Counts 99 Report, January 1999.....31

APPENDIX VII: UCAN DISTRICT EXAMPLES.....33

EXAMPLES STUDENT SUPPORT, ENVIRONMENT/RESOURCE USE, AND STUDENT/TEACHER INTERACTIONS BY UCAN COALITION AND BY DISTRICT.....33
Southern Colorado Coalition: North Conejos School District.....33
Ute Four Corners: Ignacio School District.....33
New Mexico County: Taos Municipal School District.....34
New Mexico Tribal: Santa Clara Day School.....34
Arizona Tribal Coalition: Salt River Pima-Maricopa Community.....35
Navajo Nation Coalition (now NN RSI): Tuba City Schools.....35

APPENDIX VIII: UCAN PARTNERSHIPS.....36

Table 6: UCAN Partnerships - Collaborations & Activities.....36

Program Outline

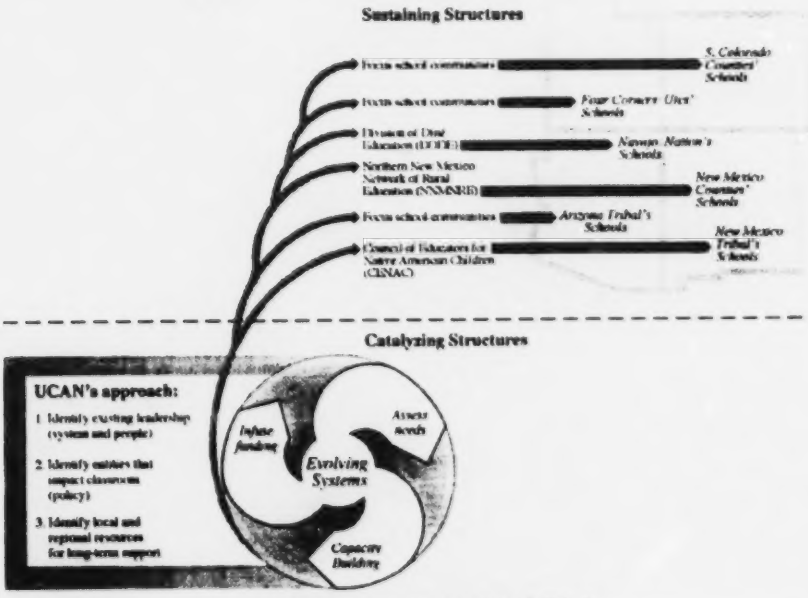
Since its inception, UCAN believed and acted on the premise that the "community" as locally defined would be the best representative of the constituents that we wanted to serve. Operationally this means correctly identifying and working with the unit of change at the local or regional level. This is our guarantee that our efforts lead to sustainability of systemic reform.

Our approach has been to

- identify the system whether that be a school, district, community, tribal organization, or some other combination of these entities,
- identify and engage policy making bodies that impact the learning system,
- help these policy making bodies evolve into a reform based operation,
- identify further the individuals, groups or other organizations and resources that are needed for long term support of reform, and
- coordinate these efforts through professional development, curricular reform, and alignment of student assessments for implementation in the classroom.

UCAN has found that the best resource management strategy is first identifying those resources that impact the perceived unit of change. We engage them as true partners and owners of the reform effort supporting management, policy, and resource management changes that form the basis for long term commitment to reform. (See Figure 1 for a graphical representation of this approach). It is these units of change in local or regional systems that represent our best chance of continuing the work we initiate, while preparing and nurturing these units of change. This view led us to focus on capacity building and leadership development within schools/communities as an early strategy to ensure our goal of systemic sustainability.

Figure 1: UCAN Sustaining Structures


Sustaining Structures
Four school communities
S. Colorado Counties' Schools
Four school communities
Four Corners Tribes' Schools
Division of Diné Education (DODE)
Navajo Nation's Schools
Northern New Mexico Network of Rural Education (NNMNRE)
New Mexico Counties' Schools
Four school communities
Arizona Tribal's Schools
Council of Educators for Native American Children (CENAC)
New Mexico Tribal's Schools
Catalyzing Structures
UCAN's approach:
1. Identify existing leadership (system and people)
2. Identify entities that impact classroom (policy)
3. Identify local and regional resources for long-term support
Infuse funding
Assess needs
Evolving Systems
Capacity Building

BEST COPY AVAILABLE

It is important to point out that UCAN developed a complex definition of focal schools that is an expansion of the NSF definition. Focal schools are defined using **seven** criteria of which **four** must be active for the school/community to be considered focal. The seven criteria are:

1. A team is in place at the school and each member has had at least 40 hours of PD on standards/assessment with continuing PD planned or in process.
2. The school board/tribal education committee has had at least six hours of PD on the importance of standards and supporting policies that further the implementation of standards in the classroom.
3. Better than 25% of the elementary school teaching staff, or better than 50% of the mid/high school math/science teaching staff have received PD and/or other forms of service on standards and/or assessment or some other area that supports UCAN goals and they are continuing to receive PD as they implement standards in the classroom.
4. Superintendent/principal has received at least 12 hours of PD on standards and reform that specifically supports implementation of standards based curriculum.
5. Tribal council, tribal education committee, or other tribal leadership, or non-tribal community members are part of a local advisory group that regularly meets to address implementation of standards or other reform issues.
6. Community based planning has occurred such Shades of Change and that such planning documents that emerge are being implemented.
7. Resource Convergence has become an organized and successful activity.

Based on these criteria, UCAN has identified 124 focal schools/communities. UCAN's vision of full implementation has been developed over time and has been the guide for its approach to reform in a complex, multi-state, multi-jurisdictional initiative. The following description of Full Implementation is represented through the drivers and within the contexts of our dynamic (focal school) units of change.

Definition of Full Implementation

While the strategies and techniques vary from community to community and coalition to coalition, the descriptions of "benchmarks" used by the six coalitions in their involvement with targeted communities and in determining partial implementation of reform, demonstrates the common vision and work of UCAN. Expansion of these "benchmarks" to their complete integration in the system forms the basis for the UCAN description of full implementation. This picture of full implementation is described in terms of the classroom, school, and system/community and the benchmarks have been identified in relation to each of the drivers. Full implementation describes an on-going process, not a state of completion.

Full Implementation in the Classroom

A more complete description of Full Implementation within the Classroom, School, and System/Community is to be found in Appendix 1. The following description concentrates on the classroom, where we find the criteria and define the strategies necessary to bring this vision to fulfillment.

CURRICULUM AND ASSESSMENT: Student's needs drive instruction. * Inquiry-based instruction, meaningful hands-on, individual and collaboration learning experiences are provided. * Use of computers, the Internet and other technology are integral to the instruction and assessment all of which are aligned with standards. * Culture and language are honored in the instruction. * Students are aware of teacher expectations and are familiar with assessment rubrics.

POLICY: Policies are regularly reviewed and modified to: * Support standards-based teaching methods that are being practiced in the classroom. * Provide equitable access to and use of materials, supplies and technology. * Insure culturally relevant materials are being used in the classrooms. * Insure that assessment feedback is being used to provide individual instruction.

RESOURCE CONVERGENCE: Resources are identified and utilized to insure: * Professional renewal is relevant and systemically planned based on staff and student needs. * Staff development is evaluated for its effectiveness on student success and reported to the parents. * Title I, Goals 2000, Johnson O'Malley and other funds are aligned to support continued reform and its implementation.

COMMUNITY SUPPORT: The community is involved in the educational process such that: * The community is viewed as a an extended classroom. * The teacher is not the center of instruction—community members, elders, and parents are involved in a day-to-day classroom experience such that the teacher is educational team member and leader.

STUDENT ATTAINMENT: Some indicators of student attainment are as follows: * Student work is performance-based and assessments are tied to the standards. * Students are accomplished in using the community and the world as their learning environment. * Students are aware of teacher/school/community expectations. * Students are familiar with performance assessments and their related rubrics.

UNDER-REPRESENTED STUDENT ATTAINMENT: Indicators to help insure under-represented student attainment: * High enrollment in science and mathematics courses of underrepresented students. * Women and minorities are taking advanced courses in science and mathematics such as those offered through Advanced Placement. * Teachers continually have PD that reflects diverse learning styles and that supports integration of culture and language into a standards based curriculum.

Section I: Overview of the System

Demographics and Current Status

Teacher Impact:

These 124, Year 3 focal schools have 1,263 elementary, 147 secondary mathematics and 145 secondary science teachers on their faculties. Figure 2 (in Appendix II) shows the total number of elementary, math and science teachers in these focal schools, as well as the number of teachers in Year 3 focal schools. Since Year 1, UCAN has involved schools employing more than half (54%) of the mathematics and science teachers in its targeted schools.

Student Impact:

The 124 focal schools have a total student enrollment of 36,656 with 43% being Native American and 41% being Hispanic. Figure 3 (in Appendix II) shows the number of students enrolled in focal schools each program year through Program Year 3. Across the three program years, UCAN has involved 186 schools (62% of targeted schools) with 53,885 students or 54% of all UCAN targeted students. Note that there is a 53% increase in focal students impacted during year three

School Impact:

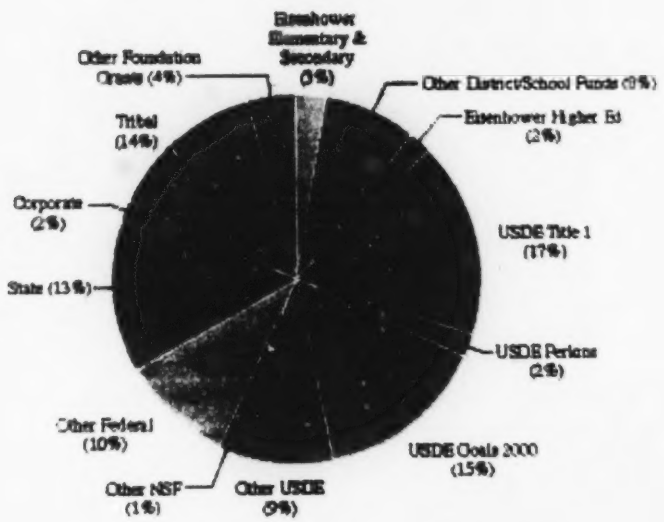
Since inception, UCAN has worked with 55 districts/agencies (representing 209 schools) out of a total of 64 targeted districts/agencies (representing 303 schools.) This represents 69% of all targeted schools. [See Appendix II, Figures 4 & 5.] Of these 209 schools, 165 (79%) have been involved with UCAN for three years.

Section II: RSI Influence on the System

Resource Changes

UCAN has been particularly successful in utilizing its existing partners and finding new resources to meet our expansion needs to reach our five year goals. The following graphic delineates our resources by source. Figure 6 exhibits the leveraged funds via source and their respective percent of total funds. It also shows the level of in-kind assistance offered during Year 3. This constitutes an increase of 24% ($1.3 million) in leveraged resources over year two. Though funding from most sources increased, there were particularly significant increases in the percent of funds coming from other USDE funds (5% increase over Year 2) and Tribal funds (3% increase over Year 2).

Figure 6: Resource Convergence - 3rd Year

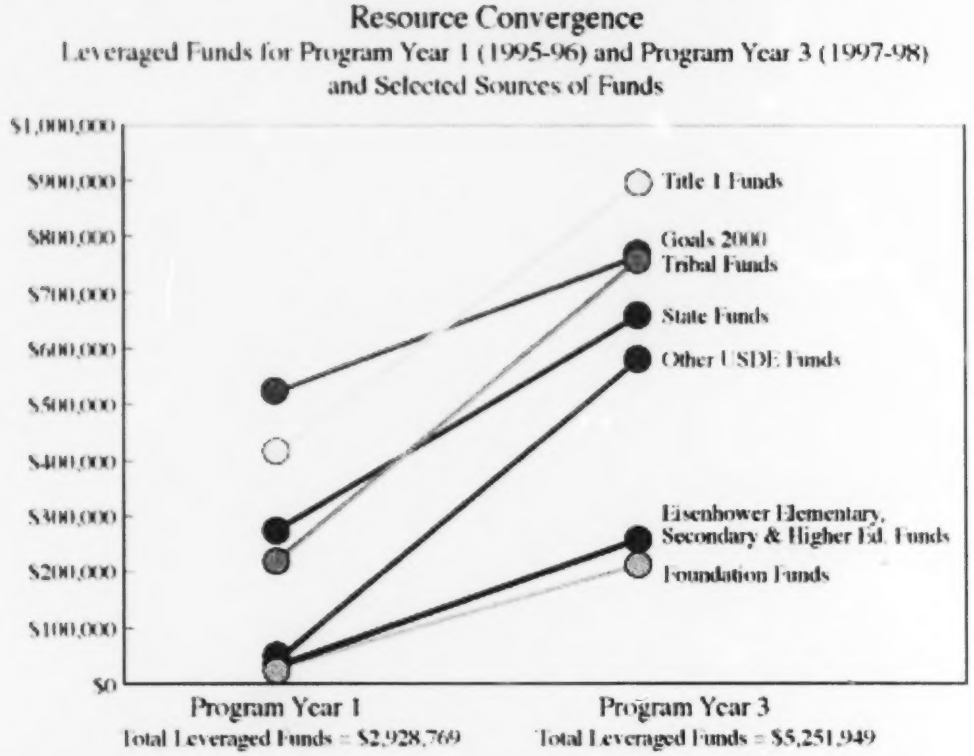


$5,251,949	*Leveraged funds*
1,732,398	*Value of in-kind assistance*
$6,984,347	*TOTAL leveraged funds*

BEST COPY AVAILABLE

UCAN rural communities are often unable to contribute large financial resources towards reform. Instead, these communities contribute essential in-kind resources to reform efforts. The $1.7 million dollar estimated monetary value of in-kind resources leveraged by UCAN during Program year 3 continues to evidence the local and regional support for UCAN's promotion of mathematics and science systemic reform. The following graphic shows the growth and increased alignment of resources during the first three years in total support and in specific areas of support.

Figure 7: Resource Convergence - Growth in Selected Areas



Of particular note are the significant increases in Title I, State and Tribal funds over the last three years. These three resource increases speak to the issues of greater alignment and institutionalization that have taken place within UCAN school/communities. Specific examples of resource convergence can be found in Appendix III.

BEST COPY AVAILABLE

Policy Changes

The following tables lists the policy changes and status of the UCAN region in the following four areas: Graduation Requirements, Professional Development Requirements, Teacher Certification Requirements, and Student Assessments and School Accountability.

Table 1: Graduation Requirements

State/Agency & Local Level Policy Changes Effecting Math/Science Education in UCAN Schools 1995/96 to Present		
State	**District/Agency**	**Policy Change**
State/Agency level Changes		
AZ	**ALL**	AZ IHEs are increasing levels of mathematics & science required for entrance, prompting AZ high schools to raise the level of mathematics and science courses.
AZ	**ALL**	AZ Instrument to Measure Standards (AIMS), is a criterion-referenced exam that requires all students starting with the 1998-99 10th graders to pass math and science to graduate.
Local Level Changes		
AZ	Alchesay HS	Eliminated General Science. Now requires Biology 1 & Physical Science for all students.
CO	Montezuma, Cortez & Ignacio Districts	Montezuma/Cortez now requires 3 years of mathematics to graduate. Ignacio now requires 3 years of mathematics and science to graduate.
NM	Tucumcari HS	Four years of science to graduate.
UT	Monument Valley HS	Requires Algebra 1 to graduate. Or Pre-Algebra can no longer be used to fulfill the math requirement.

Table 2: Professional Development Requirements

State/Agency level Changes		
NM	**ALL**	NM now requires that all professional development plans be aligned with the Educational plan for Student Success (EPSS)
Local Level Changes		
AZ	Fountain Hills Unified District	Each school has at least 1 day of professional development per month during the academic year.
CO	Center 26 JT Sangre de Cristo	Requires teachers to be computer literate at hiring. Sangre de Cristo provides 7 PD days -- 4 for Math & Science
NM	Mesa Elementary	Half day PD for teachers 5 times/year using Eisenhower funds

Table 3: Teacher Certification Requirements

State/Agency & Local Level Policy Changes Effecting Math/Science Education in UCAN Schools 1995/96 to Present		
State	**District/Agency**	**Policy Change**
State/Agency level Changes		
CO	**ALL**	CO adopted education preparation and licensing standards. All principals, superintendents and teachers must have license by 1999
Local Level Changes		
AZ	Alchesay HS Coolidge MS	All teachers will be required to complete 180 hours of PD in order to meet new state teaching certificates.
CO	Alamosa RE-11J	Alamosa is now hiring teachers who have an ESL/Bilingual endorsement or are willing to get one within 3 years.
NM	Española HS	All teachers must be certified by the State.
UT	Page High School	Use NCA standards for teacher placement.

Table 4: Assessment / Accountability

State/Agency level Changes		
AZ	**ALL**	State adopted mathematics and science standards.
CO	**ALL**	House Bill 1267 implements school accreditation system focused on standards based student achievement results.
NM	**ALL**	BIA joined NM SDE in adopting Terra Nova standards based assessment system. Will assist in addressing challenges faced by Native students transitoning to public schools.
Local Level Changes		
AZ	Coolidge Unified District	Grades 1-12 students are required to meet 80% mastery on criterion-referenced mathematics /science materials developed by District teachers.
CO	Alamosa District	Became part of a pilot project that will look at portfolios for college entrance instead of transcripts. Tracking by ACT.
NM	Okay Owingeh Community School	Now using portfolios, Meisel's, and other performance based assessments in alignment with standards.

Detailed information on many of these policy changes and their ramifications may be found in Appendix IV.

Management Changes

In order for RSI goals to become standard operating procedure for focal schools and communities, UCAN has worked with the larger community to establish a base for continuing efforts in reform. Leadership, capacity building and the attendant management structure has been of particular focus during Program year 3 and will continue in year 4.

The Navajo Nation Coalition (now the Navajo Nation RSI) is now in a tribally recognized unit of the Navajo Nation - the Office of Teacher Preparation Programs (OTEP). These two initiatives along with the Annenberg Rural Challenge ($3.5 million), have brought together their resources in a coordinated plan supporting UCAN goals. This has resulted in common planning and budget reallocations across these programs. The 12 program managers of the Division of Diné Education (DODE) have aligned their resources in support of the Navajo Nation Coalition (now the Navajo Nation RSI) and have changed their mode of operation for a more systemic approach to SMT and their overall approach to overseeing the improvement of education for Navajo children.

The Northern New Mexico Network for Rural Education (Network), part of the New Mexico County Coalition (NMC), is an 18 year old organization of clusters of 24 rural school districts (15 of which are UCAN districts) whose Executive Director is also the NM County coalition leader. This organization has been significantly impacted by UCAN in a number of areas. (1) There now exists a partnership with the State Department of Education impacting policies at the state level on student assessment and school accountability. (2) On August 13, 1998, with the support of NMC, the SDE launched the Virtual Library concept, which is an Internet based site of resources on instructional reform organized around the state standards. (3) The Network has moved from annual goal setting to long range planning based on accountability frameworks. (4) The Network districts pool their operating budgets to ensure that professional development supports instructional reform on an ongoing process. (5) The Regional Center Cooperatives (RCCs), state funded operations, are working with the Network for the establishment of Science and Math Resource Centers within the structure of the three northern RCCs. UCAN views the partnership of the Network with the RCCs as a potential long term organization to continue NM County's efforts. This supports the NM SDE efforts to increase services to rural schools through the RCC system.

The 19 Pueblos and two Apache Tribes of New Mexico have been served, since the early 1950's, by two separate BIA Agencies, the Northern and Southern Pueblo Agencies. This separation has created artificial barriers in many areas of social, political and educational concerns of the BIA schools. As a result of UCAN support, most member pueblo schools of the Northern and Southern Agencies and their respective principals and superintendents formed a new organization called the Coalition of Educators of Native American Children (CENAC). The basic premise of the organization is to engage, support and share resources to effect standards based education in all of their BIA schools as well as the Santa Fe Indian School. Since its inception, CENAC has been effective at supporting through policy and financial acquisition success, school reform across all BIA schools in New Mexico and to secure additional funding for the implementation of standards based education in their BIA schools. This organization is now three years old and has become a major force in Native education and in multi-jurisdictional issues.

The 7 districts of the San Luis Valley (SLV), have formed the SLV Technology Consortium and are working together to establish resources for and to implement standards based curriculum that is integrated with appropriate technologies.

As the Arizona Tribal Coalition (ATC) established relationships with BIA schools, the InterTribal Council, and other Tribal organizations, Arizona State University (ASU) realized the opportunity it had to develop long term relations with these entities. The ATC coalition leader was instrumental in

establishing a new office for Indian education called the American Indian Program (AIP) at ASU-East. The university is continuously strengthening this program, most recently through allocation of new facilities thus enhancing its potential to sustain ATC's work with tribes in Arizona beyond NSF funding. AIP is increasing its fiscal responsibilities as it has recently hired a new full time director who is also part (0.5 FTE supported by ASU-East) of the ATC team. ASU-East and the AIP are committed to leveraging and expanding ATC's work in the BIA and public schools.

Data Utilization

The UCAN RSI Evaluators collect and evaluate formative data to assist the UCAN Leadership Team in identifying organizational and structural areas of progress and identifying the barriers to progress. [See Figure 8 in Appendix V for graphic on data pool components.] Use of Coalition/Co-PI reports, various forms of communications & correspondence and peer evaluations of UCAN effectiveness add to the data set shown in the graphic above. Outcomes evaluation is determined by collecting data covering a wide array of areas included in the Drivers. Information has also been collected from multiple sources including secondary sources, such as state departments of education, College Board, Commissions on Higher Education, as well as primary sources such as schools, students, teachers and coalition leaders. Biannual meetings focus on the results of the data analysis allowing UCAN to adjust its current efforts and to help the UCAN Leadership Team develop next year's strategies.

The data are not always 100% complete. UCAN, as a multi-jurisdictional initiative has no authority to require compliance with its requests for information and is unable to reimburse schools or other entities for the time involved in providing the data requested. However, we are pleased with the time and effort expended by educators in the region in providing these data, as well as the support of the College Board in providing Advanced Placement data. Some data are not collected or not available from secondary sources at the level of detail needed by UCAN in the four states. One example is the course enrollment and success data by grade, ethnicity and gender. These data are only available from the schools, and often requires teachers to refer to their grade books to fulfill our request.

Student achievement data across the four states has been difficult to obtain due to the changes that UCAN states and the BIA have made regarding this issue. Comparative data will be available later this year (March 1999) and will be reported at the end of the fourth year. By then, UCAN should have significant student achievement data across all educational jurisdictions.

UCAN schools are recognizing the power and need for student data in ways heretofore either not available, or more often, not collected. As UCAN states demand more local accountability, particularly in New Mexico and more recently Colorado (House Bill 1267), UCAN focal schools have become anxious for the requisite training needed for short and long range planning to improve student achievement.

In order to encourage the use of data at the local school level, UCAN employs a number of strategies. In a cross-section of UCAN eligible schools, Student, Teacher and Principal survey results covering many Driver areas are sent to 100 schools. These surveys indicate the perceptions of the three constituencies regarding the level of success of implementation of standards based curricula in their classrooms. Discrepancies help focus the schools' efforts to align curricula, assessment, and teaching methodologies. In addition, these schools are given detailed reports on available student achievement data broken out by type of school: BIA, Public Elementary and Public Secondary. All targeted UCAN secondary schools are sent Course Reports that reflect Core Data and that are compared to national data, where possible.

BEST COPY AVAILABLE

The UCAN Evaluation Team designed and offered the UCAN Leadership Team (made up of coalition leaders and their support staff as well as the Co-PIs) an intensive workshop on the use and analysis of data for school planning. Topics included kind and use of data, confidentiality issues (FERPA guidelines), relationship of data to action plans, disaggregation and equity issues, and use of data for planning. Follow up workshops on use of data and leadership with focal school administrators and lead teachers occurred in the Fall of 1998 within the UCAN Leadership Institute. This Institute brought together approximately 400 UCAN leaders in school/district teams of seven to plan and prepare to implement leadership development strategies for reform in their schools. Plans developed at the Institute showed a strong interest in improving the gathering and use of student achievement and other data to support school wide planning.

Implementation of Standards Based Curriculum: (a), (b), & (c)

a) Standards Based Curriculum
b) Hands-On, Inquiry Based Instruction
c) Assessments

These three subsections will be discussed together. During the first three years of UCAN RSI implementation, the UCAN states have been struggling with the issue of standards, professional development, student assessment and achievement, and accountability. UCAN has been successful in influencing the efforts of New Mexico in particular, while playing as a local school support system in Arizona and Colorado.

A recent report from Education Week (January 11, 1999) entitled "Quality Counts '99," specifically details the improvements in New Mexico State Standards and its accountability model.

> "New Mexico now scores near the top on our grading scale for standards and assessments. The state plans to put in place one of the nation's most complete school accountability systems starting this year. The system includes a novel mix of top-down measures and locally set goals."

The report also points out the difficulties state departments of education have in monitoring and enforcing the use of state standards in local school board controlled states.

For Arizona, "Quality Counts '99" states:

> "Arizona's final versions of standards for math, English, and science were rated highly by the American Federation of Teachers. But the state's biggest step last year was in testing. Arizona switched from relying on a commercial, norm-referenced test to phasing in exams based on its standards. Sophomores will begin taking the test this year, with 3rd and 8th graders to follow. The state's penchant for local control explains why several bills pushing tougher accountability for low-performing districts died in the legislature last year. In 1998, the Arizona Supreme Court also approved a state plan to create a more equitable and adequate finance system for school construction and maintenance."

In Colorado, while state assessments face delays and enforcement issues, many UCAN schools have moved forward to ensure that their students experience a standards based system in their classrooms. The Ute Four Corners Coalition have a number of strategies in place to ensure that standards, instruction, and assessment are in place and aligned. These include (1) observing classroom mathematics and science instruction to insure teaching is meeting the benchmarks; (2) requiring teachers to site what particular standard they will be working on in each daily lesson plan; (3) tying lesson plans and their alignment to standards as part of the teaching staff's professional evaluation; documenting that the mathematics and science standards are in each grade level through

an outside evaluation; and (4) refining the school planning document with evidence of how each standard is being achieved. The latter is being accomplished through an outside evaluator. Title I money has been dedicated to the purchase of K-8 manipulative materials exhibiting the alignment of resources.

Table 5 in Appendix VI compares the four UCAN states regarding standards, assessment, and accountability. This data was selected from the Quality Counts 99 report from Education Week.

Implementation of Standards Based Curriculum: (d), (e), & (f)

Following each of the next three subsections are examples of how UCAN schools have responded.

d) Student Support

Saturday schools are available for middle school students to help them in the transition from the previous curriculum to the standards-based curriculum. Peer tutoring is used for both middle school and high school students. Adult volunteers and high school interns work IN elementary schools to support hands-on activity learning.

A "Cradle to Grave" learning environment provides a pre- and postnatal program to ensure that tribal members have the resources to support their children's cognitive and motor skills development from before birth.

Service Learning is highly supportive of students providing individual attention to the learning needs of each child. It is especially important because many reservation school teachers are under-prepared and need professional development on standards-based curriculum implementation. This effort allows students to receive individualized instruction from university science students while their teachers receive professional development support

A variety of activities are supported by the schools including Mathematics/Science Olympiad, Science Bowls, and youth leadership programs. Special events such as the Mars Land Rover sponsored by NASA engaged teachers, students and community members in meaningful activities supporting the need for high expectations for students and the schools' curricula. A comprehensive School-to-Work program provides important career exploration and work opportunities to high school students.

e) Use of Environments & Resources Outside of Schools

Local Community Colleges provide programs for students who want dual credit leading to various professional certification programs. Local government agencies provide programs that take the students into the field on a regular basis. These field projects teach environmental issues, ethics, research techniques, technologies, team work communication skills and environmental career options in an applied hands-on manner.

Joint initiatives with schools, universities and museums enhance education programs in the schools through the rich tri-cultural heritage of the region. These include the concurrent enrollment, tutoring and mentoring, and mentor training. These partnerships have also contributed to school wide enrichment programs centered local environmental issues.

Migrant worker programs, Boys and Girls Clubs and other community based organizations have formed homework clubs after school supporting students and their families interested in improving

student achievement. Education Talent Search and Upward Bound have aligned their resources in the support of reform in schools.

f) Student - Teacher - Curriculum Interactions

Middle school students and teachers work together to obtain outside funding for supporting field work that is standards based.

All staff, students and service providers are cognizant of the schools goals and objectives in mathematics and science. Special education classes, student council participants and the gifted and talented children all work toward goals that are directly related to the general curriculum in mathematics and science.

Standards-based curriculum developed by the teachers and students focus on units designed to engage students in identifying and solving problems relevant to them and their community. Thus the students are having a voice in the direction of their education within the context of meeting state standards.

As a result of training received in curriculum alignment/assessment, and National Standards for Science and Math, teachers have become more sensitive to the learning needs of the students they teach. Information from student surveys are used by teachers to design instructional activities which engage students in identifying and solving problems. Native teachers use language and culture to enhance instruction.

More detailed information on these three areas are included in Appendix VII.

System Environment/Context

In the rural settings of UCAN's four states and the many sovereign nations represented by the participating tribes, the issue of a unitary mathematics and science education system is extremely complex. The four states are local control states meaning that although the state educational administrations often have guidelines and general legislative efforts to improve and impact education, local implementation is left up to the school boards of the tribes/communities. In most of the focal schools involved with UCAN, students move from tribal/grant/contract schools to public schools, often in a see-saw fashion. This mixing of educational jurisdictions experienced by the ultimate SI constituent, the student, requires UCAN to directly address the multi-jurisdictional nature of the student's educational experience.

In Arizona and New Mexico, where this is particularly prevalent, UCAN has been very successful in bridging these jurisdictions such that a local/regional type of unitary picture is possible.

ARIZONA

In Arizona, the Tohono O'odham Nation have both BIA and public school K-12 systems on their reservation. A consortium has been formed (the Tohono O'odham Education Consortium) through the ATC's Tribal Innovations Program to develop curriculum across both systems. Teachers from each grade level of each school in the two systems, both BIA and public schools, are working together on aligning a common curriculum and developing assessments. Tribal and other community members help integrate cultural issues at each grade level. The superintendents of both systems are leading the efforts of this consortium. This affects 2100 students and 141 teachers. Similar consortiums focused on other educational issues has formed with Gila River Indian Community and the public schools serving that community. The Schools Effectiveness Alliance (7 schools) are focusing on student data for planning and effecting change, and the Gila River

Education Collaborative is developing a database on student achievement and other factors affecting student success.

ARIZONA, NEW MEXICO & UTAH

The Navajo Nation Coalition (NNC, now the NN RSI) is working with the Indian Education officers of each of three State Departments of Education (Utah, New Mexico, and Arizona) along with the BIA to make sure schools on the reservation support standards based curriculum that integrates culture and language. Never before has this group come together for a common purpose. Lead superintendents from both BIA and public schools serving Navajo students are also working together to ensure smooth transitions between reservation and public schools. The potential student impact is well over 60,000.

NEW MEXICO

The Pueblos of the New Mexico Tribal County Coalition have been working with the Northern and Southern BIA Agency School Superintendents and these schools have adopted both the BIA and the New Mexico State standards. Both of these have been aligned to the national NCTM and NAS curriculum standards. Also, the Council for the Education of Native American Children (CENAC) schools have adopted the New Mexico student assessment system (Terra Nova) so that state and BIA data can be closely coordinated. Two K-12 school systems, made up of BIA and public schools, are sharing resources and professional development to ensure articulation across these two jurisdictions on a community wide basis.

The Northern New Mexico Network for Rural Education (Network), part of the New Mexico County Coalition (NMC), are pooling their operating budgets to ensure that professional development supports instructional reform on an ongoing process. The Regional Center Cooperatives (RCCs), state funded operations, are working with the Network, the Panasonic Foundation and other districts. This partnership resulted in plans for the establishment of Science and Mathematics Resource Centers within the structure of the three northern RCCs.

COLORADO

In the San Luis Valley (SLV), 7 districts have formed the SLV Technology Consortium. Through this consortium, districts are working together for the first time for a common purpose: to establish resources for and to implement standards based curriculum that is integrated with appropriate technologies, both as a background support for classroom implementation, and as regional support for sharing electronic resources. The consortium is also pooling professional development funds so that a critical mass of teachers in each school/district have the necessary expertise to be local resources for their peers.

Building on the cluster of districts in the San Luis and Arkansas Valleys that were formed in the late 1980's during the NSF funded Project LINK (Linking Institutions Networking Knowledge), the Southern Colorado Coalition has helped them refocus on the implementation of standards and the integration of technology into their classrooms. These clusters have a long history of working together and are now developing long and short term plans reflecting NSF and local reform goals.

TITLE I & OTHER TARGETED PROGRAMS

In New Mexico and throughout the BIA system in Arizona and New Mexico, special education and Title I students are most often mainstreamed. Only those students with extreme handicaps are ever pulled out of the classroom. Thus the effort to establish and implement a consolidated school plan aligns with the mainstreaming efforts of the BIA and the state.

In Colorado, most schools have consolidated planning that requires alignment of school resources in support of reform regardless of the source of funding.

Partnerships

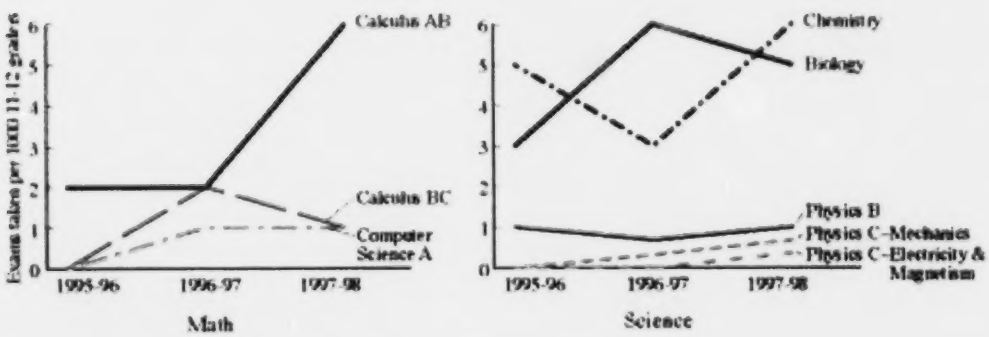
New partnerships include significant contributions by the New Mexico Collaborative for Excellence in Teacher Preparation (NM CETP), Sandia National Laboratories, Los Alamos National Laboratory, and the National Renewal Energy Laboratory. NM CETP and UCAN signed an Memorandum of Understanding (MOU) that has resulted in numerous support activities in year three. The three National laboratories, already part of UCAN's Steering Committee, through a series of planning sessions, have agreed to set aside professional development opportunities for UCAN schools and to co-plan their 1998/99 professional development calendars. Existing partnerships have been particularly supportive in the areas of teacher professional development, educational capacity building, and to some extent, community engagement. The SouthWest Comprehensive Center (SWCC), funded by the US Department of Education, allocates 5% of its annual funding to support UCAN's efforts in professional development, school planning, and integration of culture and language in standards based science and mathematics curricula being used by UCAN school/communities. Table 6 in Appendix VIII represents a detailed sampling of the type and extent of our partnerships throughout UCAN.

Section III: Outputs and Outcomes

Student Performance

Math/Science Advanced Placement Test Program by Year
Since UCAN does not receive AP enrollment data from all targeted schools, presenting the number of students enrolled in AP courses would only give a partial picture of AP activity in UCAN schools. Since 11th and 12th grade students represent 98% of the students taking AP exams in 1998, the following graphic presents the data per 1000 11th and 12th grade students, providing a comparison of exam taking between years.

Figure 9 : AP Math & Science Exams Taken per 1000 Juniors/Seniors by Exam and Year in UCAN Targeted High Schools



BEST COPY AVAILABLE

Overall, the number of math/science AP tests taken in UCAN targeted public schools has increased by 9 tests per 1000 11th and 12 grade students enrolled since 1995-1996. The number of students taking exams increased for most math/science exams, with increases ranging from +4 tests per 1000 in Calculus AB to +1 tests taken in Chemistry, Computer Science A and Calculus BC. This is most likely due to the change in emphasis of the AP program in the UCAN region from one originally focused on the elite ("brightest") to one in which all students can participate. In addition, the state of New Mexico has supported this concept by offering fee waivers for low income students to take AP tests for minimal costs.

Arizona Stanford 9 Standardized Test Results by Grade

The state of Arizona utilizes the Stanford 9 Achievement Test Series as their state assessment. This assessment includes both norm-referenced and criterion-referenced components, and was developed in alignment with NCTM, AAAS and other standards-based criteria. The Abbreviated Battery component used by Arizona does not include science.

Figure 10 presents the results from the Math sub-test for the second administration in Arizona of the Stanford 9 assessment (Spring, 1998 and the change in percentage from Spring 1997) by grade for 23 UCAN participating (3 years) and 52 UCAN eligible but not targeted schools in Arizona.

Figure 10: 1997-98 Arizona Stanford 9 Math Results - UCAN Participating and Eligible (non-targeted) Schools

Percent Scoring At or Above the 50th PR in 1997-98 and Change in Percent Since 1996-97		
Grade	Participating Public Schools (3 yr Involvement)	UCAN Eligible (Non Targeted)
	% (Change in %)	% (Change in %)
3	15% (+3)	19% (+2)
4	24% (+8)	22% (+1)
5	16% (0)	26% (+4)
6	27% (+10)	29% (+5)
7	20% (+4)	23% (+3)
8	24% (+4)	23% (-5)
9	25% (+2)	36% (+2)
10	23% (-5)	30% (+4)
11	19% (+3)	30% (0)
12	28% (+6)	32% (+2)

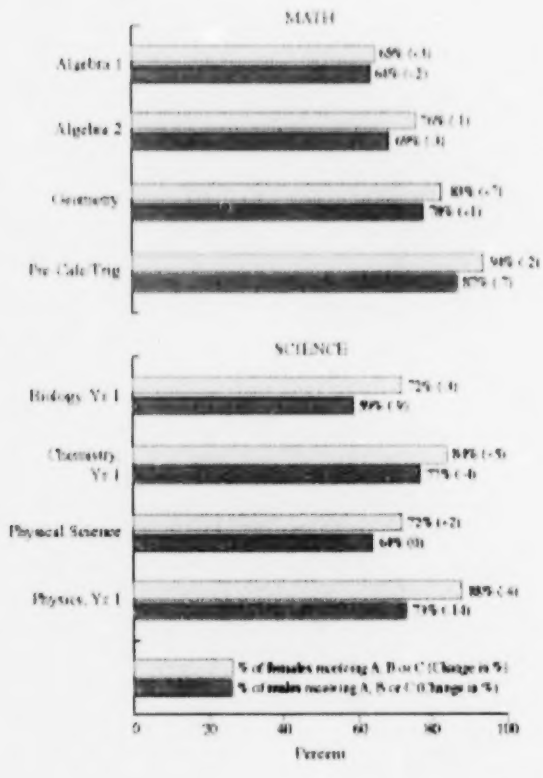
BEST COPY AVAILABLE

These assessment results are positive for UCAN schools. Participating schools (3 years of involvement) demonstrated a greater gain in the percent of students scoring at or above the 50th percentile rank (PR) in all but the 5th grade. UCAN eligible (non-targeted) schools also increased their percentage (except for grade 8) but at a lesser rate than UCAN targeted. These gains represent increased student attainment as well as a greater familiarity of teachers and students with the assessment. However, the percent of students scoring at or above the 50th percentile in UCAN targeted schools is still below the national norm of 50%.

Student Success in Math/Science Courses by Gender

Figure 11 presents the percentage of males and females who are successful (received a grade of A, B, or C) in a sample of math and science courses in a subset of targeted high schools. These 20 targeted high schools serve 6,389 9th-12th grade students (51% of targeted 9th-12th grade students.) This longitudinal study shows female student success rates made large gains in Geometry (+7%.) Male success rates in Pre-Calculus/Trigonometry dropped 7%, though well over three-quarters (87%) of the males were successful in the course.

Figure 11: Percent of Grade 9-12 Students Receiving an A, B, or C by Gender - Targeted Longitudinal Schools Only : Selected Math/Science Courses for Fall, 1997 Compared to Fall, 1996

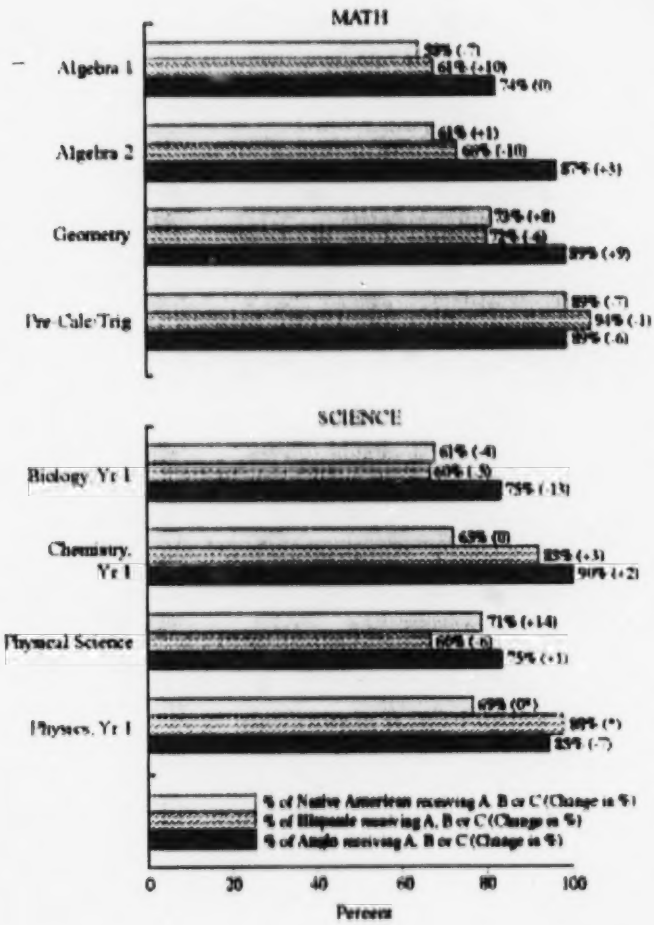


BEST COPY AVAILABLE

Student Success in Math/Science Courses by Ethnicity

Student success rates among Native American, Hispanic, and Anglo students vary considerably. Figure 12 represents the results of student success (A, B, or C) in selected courses in the targeted longitudinal schools. Anglo students tend to have higher success rates than any other ethnic group, with few exceptions. Hispanic students had the highest success rate in Pre-Calculus/Trigonometry (94%.) Hispanic students also had the highest success rate in Physics (88%,) however, the low n count (n=33) make those results less significant. In Pre-Calculus/Trigonometry the success rates ranged from 89% (Native American and Anglo) to 94% (Hispanic.)

Figure 12: Percent of Grade 9-12 Students Receiving an A, B, or C by Ethnicity: Targeted Longitudinal Schools Only: Selected Math/Science Courses for Fall, 1997 Compared to Fall, 1996



BEST COPY AVAILABLE

Student Enrollment in Math/Science Courses

Of the 238 UCAN-eligible schools serving grades 8-12, 138 are targeted for full systemic implementation in partnership with UCAN. Targeted schools returned these course data at a much higher rate (59%) than non-targeted schools (28%). However, the targeted schools which return course data varies each year, so that the number of schools reporting complete course data for both Fall, 1996 and Fall, 1997 represents a sub-set of the entire number of schools reporting.

This section contains data and analysis of the 20 targeted high schools which serve 9th-12th grade students which reported complete course data for Fall, 1996 and Fall, 1997. During the 1997-98 school year, these schools represented 6,389 9th-12th grade students (51% of targeted 9th-12th grade students). The following comparisons of the course data in these schools for the last two years offers an initial look at longitudinal course-enrollment trends within these schools.

Figure 13: Percent of Grades 9-12 Students Enrolled by Gender and Ethnicity - Targeted Longitudinal Schools: Only Selected Math/Science Courses for Fall, 1997 Compared to Fall, 1996

	Fall, 1997 and Change in Percent Since Fall, 1996 (N=6143) (N=6095)				
	Grade 9-12 students (Change in #)	% Females (Change in %)	% Native American (Change in %)	% Hispanic (Change in %)	% Anglo (Change in %)
	6,143 (+48)	48% (+1)	22% (-2)	40% (+3)	37% (-2)
MATH COURSES					
Algebra 1	1,258 (+17)	50% (+4)	28% (+6)	38% (-2)	33% (-5)
Algebra 2	713 (-44)	54% (+1)	24% (-5)	38% (-2)	37% (+4)
Geometry	856 (+84)	52% (+1)	18% (-2)	29% (-7)	51% (+8)
Pre-Calc/Trig	273 (-30)	53% (-6)	24% (+5)	40% (+5)	35% (-7)
SCIENCE COURSES					
Biology, Yr 1	1551 (+176)	48% (-1)	18% (-2)	42% (+2)	39% (0)
Chem, Yr 1	565 (-41)	57% (+4)	29% (+7)	32% (-6)	38% (0)
Physical Sci	1228 (+30)	49% (+3)	27% (-1)	32% (-4)	37% (+1)
Physics, Yr 1	186 (-47)	51% (+5)	32% (-4)	18% (*)	49% (+12)

* Change in Percent is not reported for cells representing fewer than 50 students.

The overall student population increased 1% between Fall, 1996 and Fall, 1997 in these schools. Some courses demonstrate a much higher growth rate than would be expected based upon the 1% school growth. Those courses include 1st Year Biology (+13%) and Geometry (+11%).

Some courses experienced large decreases in enrollment, such as Physics (-20%) and Pre-Calculus/Trig (-10%). For many small rural schools, it is not possible to offer upper level math and/or science courses in consecutive years, due to the small number of students available to take them. Therefore, fluctuations in enrollments between two years may not be a reliable indicator of student interest in upper level courses. Trend data over multiple years may be more appropriate.

Female and male student enrollment followed expected trends except in Pre-Calculus/Trig, where male enrollment increased by 6 percentage points, and in Physics, where female enrollment increased 5 percentage points. These two courses now exhibit a more balanced gender enrollment pattern.

Native American student enrollment has increased in Algebra 1 by 6 percentage points so that they are over-represented in the course (28%) relative to their overall school enrollment (22%). Similarly, Native American students are over-represented in Chemistry (29%) and Physics (32%). Fewer Hispanic students enrolled in Physics (18%) and Geometry (29%) than would be expected based upon their overall school enrollment of 40%. Anglo student course enrollment increased 12 percentage points in Physics and 8 percentage points in Geometry, so that they are over-represented in both courses (49% and 51%, respectively) relative to their overall school enrollment of 37%.

SUMMARY PRESENTATION OF PROGRESS

In addition to the data offered above, UCAN has seen significant progress in a number of other areas.

The six UCAN coalitions continued their efforts to implement standards-based science and mathematics curricula within their focal schools. UCAN partners such as The Education Trust, WestEd, NM RE:Learning, SEDL, and NM CETP supported a series of UCAN wide or multiple coalition wide workshops on curriculum alignment, assessment, use of data for decision making, and accountability. As a result, 124 schools serving 53,885 students received professional development in these areas. More specifically, 1061 teachers (K-12), 261 principals, superintendents and school board members received an average of 41 hours of professional development and capacity building.

As a result of discussion between UCAN and the SouthWest Education Laboratory, a pilot effort to impact policy and capacity building at the state department of education level was initiated in November, 1997. At that time, a number of Regional Technical Assistance Providers (RTAPs) including SEDL, the SouthWest Comprehensive Center (US Department of Education), UCAN and Programs for the Improvement of Teaching and Learning among others, met with the New Mexico State Department of Education. Five areas of technical assistance needs were identified and task forces for each area were formed. These five areas are: Use of Data for School Planning, Standards and Benchmarks, Limited English Proficiency, Parental Involvement, Internal Capacity Building for State Education Agencies. Over the next few months, these task forces met electronically to more clearly define specific goals and identify resources to reach those goals. This pilot effort is designed for scale up to include the other three state departments of education in Arizona, Colorado, and Utah.

The Panasonic Foundation has been working with the NM State Department of Education, the Legislative Study Committee, and the New Mexico County Coalition (through the Northern NM Network for Rural Education) during the last three years. Their focus has been on whole system change that requires review of existing policies and organizational structure. Because of the close working relationship between NMC and the Panasonic Foundation, the Foundation has agreed to support the UCAN reform efforts in New Mexico for the next two years. The Northern Network

and NMC have been designated one of Panasonic's National Reform Sites. This means that their extensive technical assistance resources will be available to support the NMC's work towards sustaining reform.

The SouthWest Comprehensive Center (SWCC), a technical assistance center funded by the US Department of Education and a major UCAN partner, met with the Ute Four Corners and Southern Colorado coalitions on September 11-12, 1998. The NM SWCC office already sponsored meetings with the NM SDE and NMC throughout year three. The Phoenix SWCC office will be initiating similar meetings in year four. This time will be used to develop a common plan for technical assistance for schools in the two UCAN coalitions during the 1998/99 academic year. Some of the resources from the SWCC Denver office will be earmarked to support consolidated school planning and implementation of standards in UCAN schools in Colorado.

A consortium of businesses, institutions of higher education, national laboratories and NSF funded initiatives worked together over nine months to develop a Toolkit on Hands-On Learning Development. This Toolkit is designed to be used for the general public, parent organizations, school board members and business people to inform them of the value of hands-on approaches to science and mathematics education. Partners include Sandia National Laboratory, the Center for Hands-On Learning (non-profit), NM CETP, UCAN and Intel Corporation. The Toolkit has been effectively field tested and will be widely disseminated throughout UCAN in year four.

In partnership with the Phoenix USI and Maricopa Community College, UCAN will establish a UCAN RSI Community Engagement Center (CEC). If funded by NSF, the CEC will train teams of parents and other tribal/community members in Math for Parents, a standards-based mathematics awareness and engagement experience. These teams in turn will work in their own communities with CEC support as a means to increase the knowledge base and engagement levels of other parents and community members in the reform effort. The Math for Parent modules are currently available in English and Spanish. If deemed appropriate, additional written languages such as Navajo may be used to make these materials more accessible to their communities. Maricopa Community College and UCAN have agreed to fund a pilot if the grant application is not approved. The SouthWest Comprehensive Center and the Center for Education of Diverse Populations are developing community outreach activities based on standards-based reform models and will also partner with UCAN and Maricopa.

Across UCAN, long established and newly formed (within the last three years) organizations have formed formidable partnerships that have impacted the way they do business. Reform is the operative word for the operations of these organizations, and cooperation is the method through which they succeed. UCAN has been particularly successful in bringing these entities into sharing a common vision of high quality education, one that is systemically based and is moving towards an equitable and sustainable framework.

APPENDIX I: Full Implementation

DEFINITION OF FULL IMPLEMENTATION

While the strategies and techniques vary from community to community and coalition to coalition, the descriptions of "benchmarks" used by the six coalitions in their involvement with targeted communities and in determining partial implementation of reform, demonstrates the common vision and work of UCAN. Expansion of these "benchmarks" to their complete integration forms the basis for the UCAN description of full implementation. This picture of full implementation is described in terms of the classroom, school, and system/community and the benchmarks have been identified in relation to each of the drivers.

Full implementation describes an on-going process, not a state of completion.

Curriculum and Assessment

- CLASSROOM *Student's needs drive instruction. *Inquiry-based instruction, meaningful hands-on, individual and collaboration learning experiences are provided; i.e. thematic units, hands-on science and math kits, FOSS Kits. *Use of computers, the Internet and other technology are integral to the instruction and assessment. *Culture and language are honored in the instruction. *Multiple assessment techniques are aligned with curriculum and instruction. *Teachers use assessment to individualize instruction. *Communications between teachers and their students demonstrate in a variety of ways what students know and are able to do with their knowledge. *Students are aware of teacher expectations and are familiar with assessment rubrics.

- SCHOOL *National, State and locally developed standards are the basis for selection and/or adaptation of curriculum. *Curriculum is appropriately integrated and interdisciplinary. *Appropriate technology in various forms is integrated into the school curriculum. *Communications exists across grade levels about student expectations. *Teachers have access to resources aligned to their curriculum and assessment requirements that add to their math and science expertise. *Curriculum is reviewed for cultural relevancy. *Assessments are being aligned with curriculum and instruction. *Students are able to demonstrate in a variety of ways what they know and can do with knowledge acquired.

- SYSTEM/COMMUNITY *Regular communications exists between schools, school system and community about curriculum, instruction, assessment and student expectations. *Authentic assessment is understood and expected by the community. *The community and school system provide support for continued professional development of school staff. *Administration allows for dialogue and self reflection, consensus and community input. *A support system is in place for sustainability.

Policy

Policies are regularly reviewed and modified to:

- CLASSROOM *Support standards-based teaching methods that are being practiced in the classroom; i.e., hands-on tool kits, authentic assessment methods. *Provide equitable access to and use of materials, supplies and technology; e.g., computers in the classroom, access to the Internet, distance learning hardware utilization. *Insure culturally relevant materials are being used in the classrooms. *Support standards-based math and science curriculum and

assessment tools that are being utilized in the classroom. *Insure that assessment feedback is being used to provide individual instruction.

- SCHOOL *Provide student support systems as new curriculum, assessment and course requirements are changing. *Insure alignment of curriculum and content with national, state and locally developed standards. *Provide high quality certification and endorsement requirements for math and science teachers. *Insure adequate allocation of resources for SMETE reform. *Provide for continual review and renewal of school-wide plans based on analysis of school data and input by staff, students, and community.

- SYSTEM/COMMUNITY *Reflect high quality certification and endorsement of math and science teachers. *Provide student/teacher support systems as new curriculum, assessment and course requirements are changing. *Support culturally relevant curriculum and materials. *Encourage community/tribal involvement and support of standards-based curriculum and assessment in math and science. *Insure continual review, renewal and self-reflection. *Provide sustainability of SMETE reform.

Resource Convergence

Resources are identified and utilized to insure:

- CLASSROOM *Professional renewal is relevant and systemically planned based on staff and student needs. *Staff development is evaluated for its effectiveness on student success and reported to the parents. *Informal science and outside resources are utilized in the classrooms. *Adequate math and science materials, supplies and equipment are available for use.

- SCHOOL *The entire school community sees the interconnectedness and interdependence of all available resources. *All resources are used and coordinated to their best advantage within a detailed structure and plan. *The school and outside agencies/partners collaborate to maximize available resources *Partnerships, collaborations, alliances and networks provide financial and non-financial resources aligned with school-wide plans.

- SYSTEM/COMMUNITY *The entire system/community sees interconnectedness and interdependence of all available resources. *Ongoing resource convergence is present. *Federal funds are leveraged in a consolidated manner. Local resources are aligned with school-wide goals and reviewed annually.

Community Support

The community is involved in the educational process such that:

- CLASSROOM *The community is viewed as a an extended classroom. *The teacher is not the center of instruction—community members, elders, and parents are involved in a day-to-day classroom experience such that the teacher is educational team member and leader. *Culturally relevant curriculum is integrated with the curriculum and augmented by the elders, parents and community members.

- SCHOOL *All stakeholders have ownership of school. *No clear line of distinction exists between educators and community experts in delivering services to the school. *Empowerment is a norm rather than an exception. *Decisions are based on a shared vision. *School is structured to fully accommodate student learning and personal needs; e.g. evening or early morning classes, distance learning classes, summer courses, etc. *School based management supports teaching and learning

- SYSTEM/COMMUNITY *The whole community/tribe accepts responsibility for input and support of education of its children. *The community/tribe views itself as an extended classroom. *Culture and language is honored and supported within the curriculum. *All stakeholders have ownership of education system. *Decisions are based on a shared vision that is constantly reviewed and adapted through data management and analysis, and community and staff input. *School based management with tribal/community input supports teaching and learning. *Critical decisions are made in a way that link accountability and responsibility. *School structured to accommodate student learning and personal needs. *Partnerships reflect the diversity of the make up of the school/system/community. *Collaborations, partnerships and networks reflect the community.

Student Attainment

Some indicators of student attainment are as follows:

- CLASSROOM *Student work is performance-based and assessments are tied to the standards. *Student attitude towards SMETE is positive and dynamic. *Students are accomplished with the use of technology. *All students have the opportunity to have concurrent enrollment with institutions of higher education. *Students are accomplished in using the community and the world as their learning environment. *Students are aware of teacher/school/community expectations. *Students are familiar with performance assessments and their related rubrics.

- SCHOOL *The majority of students enroll in science and math courses beyond minimal requirements. *Remedial courses are not required. *Graduation requirements support the standards, institutions of higher education admissions and the minimal skill and educational needs of the workplace. *Technology is integrated in all aspects of the school's educational experience, and used to allow all students access to and enrichment of higher level courses.

- SYSTEM/COMMUNITY *Community expectations from the students are high and data aligned to curriculum and assessments as well as other indicators are used to determine successful student attainment of these expectations. *The system/community understands alternative assessment systems and values student performance. *The community provides opportunities for students to learn and demonstrate their capabilities.

Under-Represented Student Attainment

Indicators to help insure under-represented student attainment:

- CLASSROOM *High enrollment in science and mathematics courses of underrepresented students. *Strong participation of underrepresented students in science/math related clubs, organizations, science fairs, etc. *Hands-on classroom/lab activities are enhanced by the use of graphing calculators or other integrated technologies for all science and math courses serving all students. *Pre-college mathematics including pre-Calculus is the norm for all students. *Women and minorities are taking advanced courses in science and mathematics such as those offered through Advanced Placement. *Teachers continually have PD that reflects diverse learning styles and that supports integration of culture and language into a standards based curriculum.

- SCHOOL *Large percentage of underrepresented students (with concomitant increases in women) are doing well on normed reference and performance/criterion referenced exams such that differences between ethnic group scores are narrowing. *Equal higher education/ career placement success ratings for high school graduates pursing science, mathematics and engineering/technology careers. *High graduation rates with narrowing differences across ethnic groups and by gender.*School data that is disaggregated by ethnicity and gender is constantly being reviewed and used to support high achievement for all students. *There is an active commitment by the administrative and teaching staff to

address inequities through policy, classroom teaching methods, and assessment strategies supported by data.

- SYSTEM/COMMUNITY *Community values education and supports their students in pursuing science, mathematics and technologically oriented careers. *Community/Tribal leaders are actively involved in the education process. *Availability of appropriate technology to enhance learning for all students. *School system data management clearly focuses on improving student achievement through system accountability via disaggregation of data by ethnicity and gender. *Reporting to the community/tribe of student achievement progress by ethnicity and gender and their success rate compared with all ethnic groups is regularly done.

Although these benchmarks are not inclusive of what full implementation may be at all focal sites, they form a guide by which school/communities involved in the reform process may use in their efforts to improve student achievement for all.

APPENDIX II: Demographics & Current Status

Figure 2: Teachers in UCAN Focal Schools

Number of Elementary, Math & Science Teachers in UCAN Focal Schools September 1, 1995 to August 31, 1998

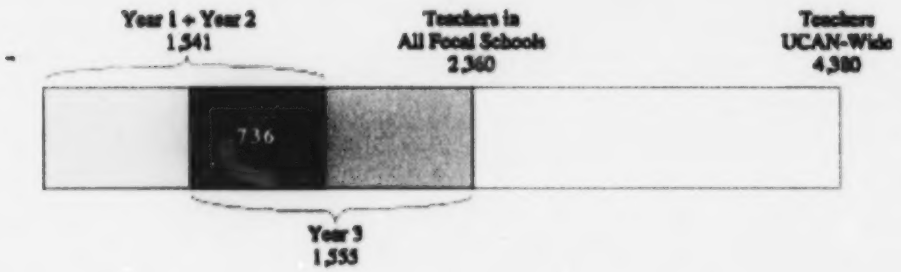
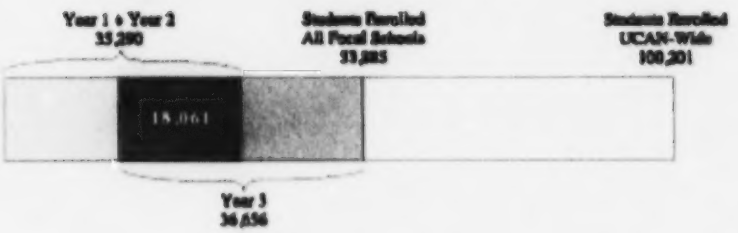


Figure 3: Students in UCAN Focal Schools

UCAN Focal Schools Student Enrollment September 1, 1995 to August 31, 1998



BEST COPY AVAILABLE

Figure 4: UCAN Targeted Districts

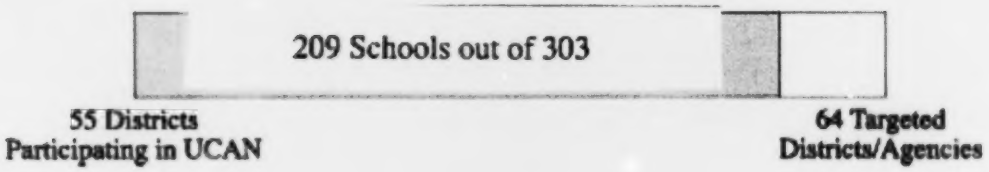
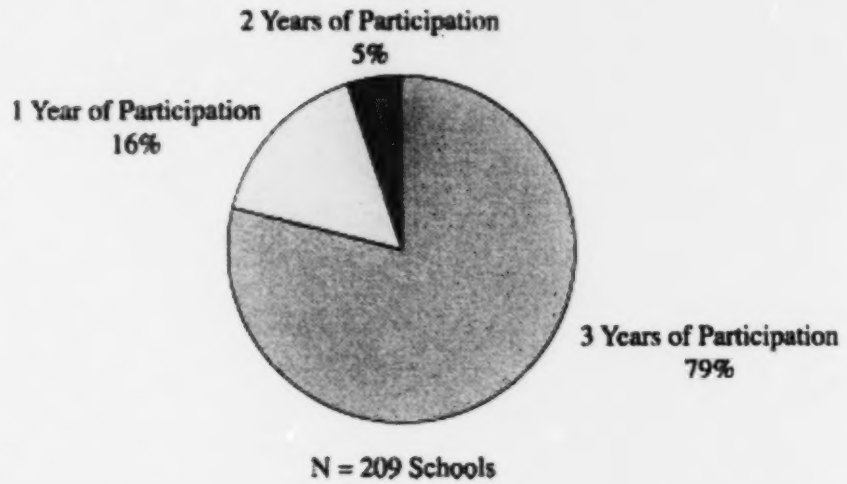


Figure 5: UCAN Participating Schools (percentage) by Years of Involvement



APPENDIX III: Examples of Resource Convergence

Many of the coalitions have developed their own expertise in resource development that resulted in significant new funding in Program year 3 in support of their strategies and UCAN's goals. For example, the Southern Colorado Coalition facilitated the development of a 7 district Technology Literacy Consortium. This consortium applied for a $440,000 Technology Literacy Grant from the Colorado Department of Education. They were awarded $200,000. Two other SCC districts were awarded $50,000 each. UCAN districts applied to ESIE for $50,000 planning grants for professional development supporting the implementation of standards-based mathematics curriculum in the K-8 grades. Two have been funded (NMT, & San Juan County - Utah). Other applications are being submitted.

The New Mexico Tribal Coalition and CENAC have been particularly successful in securing new funding. CENAC received two BIA Goals 2000 grants of $200,000 and $250,000 and recently received an additional award for $200,000 from Goals 2000. In addition, CENAC received $38,000 from the State of New Mexico for professional development and community outreach. In this 3rd program year, the Santa Fe Indian School, acting as fiscal agent for CENAC, received $341,000 through the Annenberg Rural Challenge. All these resources are being committed to school reform. Recently, the BIA has invested $145,000 to fund the Pueblo Connection Project. This effort will enable all Northern and Southern Agency BIA schools to be connected to the internet. Teams from each school will receive a total of 180 hours each of technical training to maintain school and classroom access to the internet and to integrate the use of computers and the internet into their standards-based SMT curriculum. One-2-One Foundation contributed another $2300 to buy computer monitors for the schools.

The Navajo Nation Coalition (now the Navajo Nation RSI), as well as the Southern Colorado, Arizona Tribal and New Mexico County coalitions have extensively utilized UCAN partners to support their efforts. WestEd and The Education Trust are working closely with Arizona Tribal in their Tribal Innovations Project; a two year professional development program supporting standards-based curriculum K-12. The Education Trust and RE: Learning NM are working with the NNC, NMT, SCC, and NMC to train teachers in how to align their curriculum to the standards and to the new assessment systems being put in place by New Mexico and Colorado. The UFC has made extensive use of their partnerships with College of Santa Fe, Denver University, University of Colorado, Pueblo Community College, Ft. Lewis College, and Utah State University.

The SouthWest Comprehensive Center (SWCC), a technical assistance center funded by the US Department of Education and a major UCAN partner . [Annually, 5% of the SWCC budget is allocated to UCAN in support of leadership, capacity building, and culturally relevant curriculum issues.] The central SWCC office already sponsored meetings with the NM SDE and NMC throughout year three and is working the Ute Four Corners Coalition in Utah. The Arizona and Colorado offices of the SWCC are in the process of developing action plans appropriate to these two coalitions.

In New Mexico, UCAN operates Advanced Placement (AP-NM) and has greatly increased its impact with the support of Senator Jeff Bingamin (D-NM). With his support:

- An increase from $35,000 to $202,100 in funding from the 1997 state legislature for the 1997-98 year. This has allowed increasing permanent staff by two FTE and with state funding, we anticipate this to be sustainable.
- An initial commitment of $40,000 from local industry to support the efforts of AP-NM
- The development of a 5 year plan that includes goals specifically for math and science. At the end of 5 years, every high school will be able to offer students a minimum of one AP level course in mathematics, science, or English.
- Federal flow through funding (Spring 1998) at the state level was passed to provide student fee reductions for low income students to take AP exams.

The New Mexico County Coalition has leveraged Regional Center Cooperatives (RCC) resources by aligning them with school and other funds to use valid data in making decisions. The other funds include Special Education, Eisenhower, and Title I moneys in support of reform. Collectively, the RCCs have contributed approximately $100,000 from state funds and an additional $167,000 from a Goals 2000 grant. The Panasonic Foundation, continues to support the leadership development with approximately $75,000 worth of technical assistance.

APPENDIX IV: Examples of Policy Changes

Both New Mexico Tribal and New Mexico County Coalitions worked closely with the Bureau of Indian Affairs (BIA) and New Mexico State Department of Education to ensure a common student assessment system for New Mexico students. *With direct support of the New Mexico Tribal Coalition and CENAC, for the first time, the NM BIA schools have adopted the same student assessment system as the rest of the state.* This will strengthen UCAN's efforts to form a bridge between the BIA and public schools serving their students.

In Colorado, new legislation requires districts to develop an accreditation and implementation plan that addresses standards, student achievement, and accountability reporting. However, the Colorado Department of Education had delayed the introduction of a new student assessment system for science until the year 2000. The Southern Colorado Coalition schools (comprising 11 of 18 districts) in the San Luis Valley decided that a student assessment system was needed immediately, particularly because of the professional development, curriculum alignment, and technology integration into the classroom training that SCC had been offering. These schools use the Terra Nova assessment system, the same as that being used in public and BIA schools in New Mexico. These three coalitions (SCC, NMT, NMC) have been working together on professional development, student and school data analysis, and alignment of student assessments with the curriculum. Thus the focal schools and districts in the three coalitions have made significant strides towards establishing a student assessment system that can be compared across state lines and across multiple educational jurisdictions.

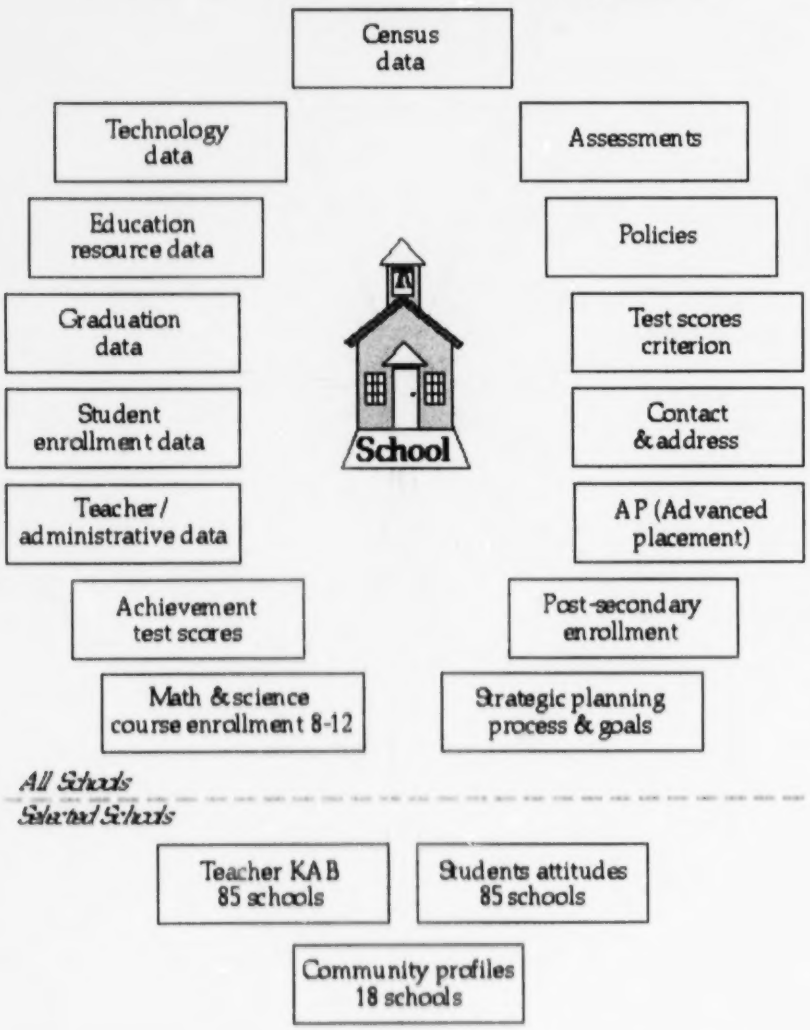
New Mexico and Colorado State Departments of Education are expecting a higher level of accountability for student success at the local level. The New Mexico County Coalition, in cooperation with the NM State Department of Education and with the Panasonic Foundation, initiated, in year three, a pilot project aimed at implementing an accountability framework for increasing student success. Three school sites, one of which is a K-12 district, piloted a whole school staff training model to implement the accountability framework. This was delivered with technical assistance from the NSTA. Although the results were very successful, the cost for disseminating this approach from a coalition level was prohibitive. The model was revised to train a leader cadre from a new, larger set of pilot sites. This cadre will then in turn, train the whole school staff at the local level. This pilot involves 24 districts (26 sites) that have revised their Educational Plan for Student Success (EPSS) using the accountability framework as a guide. The EPSS revisions, an audit of the teacher competencies in math and science, and an audit of the school/district abilities in addressing areas of need, have resulted in a focused set of professional development activities designed to positively impact students at the classroom level. The SDE will use the results from this pilot to disseminate to other districts in the state best practices in the areas of accountability.

The Arizona State Department of Education adopted the Stanford 9 student assessment system. The BIA schools in Arizona and on the Navajo Nation have also adopted the Stanford 9 and will allow UCAN to compare Stanford 9 results with previous student assessment systems. Likewise, in New Mexico and Colorado, UCAN will be able to compare Terra Nova results with previous ITBS scores on a quartile basis.

APPENDIX V: Data Pool Components

Figure 8: Data Pool Components

Evaluation Team Data Pool Components*



* Data available within Components represents a range of completeness.

APPENDIX VI: Selected Data on UCAN States by Education Week

Academic Standards, Assessments, And Accountability

Port = Portfolio assessment;
Perf = Performance assessment;
CRT = Criterion-referenced test;
NRT = Norm-referenced test;
Wr = Writing assessment;
N/A = indicates document was not available for review.
H = indicates high school level;
M = indicates middle school level;
E = indicates elementary level.

Table 5: Selected Information Comparing UCAN States Education Week -- Quality Counts 99 Report, January 1999

STATE	ARIZONA	COLORADO	NEW MEXICO	UTAH
SCORE	86	72	94	72
GRADE	B	C-	A	C-
STANDARDS (50% of Grade)				
Has the state adopted standards in the core academic subjects? (December 1998)	in 3 subjects	yes	yes	yes
How clear and specific are the state's mathematics standards? (Fall 1998)	EMH		EMH	EMH
How clear and specific are the state's science standards? (Fall 1998)	EMH	EMH	EMH	EMH
ASSESSMENT (30% of grade)				
How does the state measure student performance? (Fall 1998)	NRT, CRT, Wr, Perf	CRT, Wr, Perf	NRT, CRT, Wr, Perf	NRT
Which subjects are tested using assessments aligned to state standards? (Fall 1998)	Eng, math	Eng	Eng, math, sci, ss	none
ACCOUNTABILITY (20% of grade)				
Students must master 10th grade standards to graduate (Fall 1998)	future	future	yes	no
Schools held accountable for	yes	no	yes	no

performance through report cards (November 1998)				
Schools held accountable for performance through ratings (November 1998)	no	no	yes	no
Schools held accountable for performance through rewards (November 1998)	no	no	yes	yes
Schools held accountable for performance through assistance (November 1998)	no	no	yes	no
Schools held accountable for performance through sanctions (November 1998)	no	no	yes	no
Did the state participate in the 1998 NAEP exams? (1998)	yes	yes	yes	yes

Such data will be monitored by UCAN as part of its annual planning and implementation,

APPENDIX VII: UCAN District Examples

Examples Student Support, Environment/Resource Use, and Student/Teacher Interactions by UCAN Coalition and by District

Southern Colorado Coalition: North Conejos School District

d) Student Support: Saturday school is available for middle school students to help them in the transition from the previous curriculum to the standards-based curriculum. Peer tutoring is available for both middle school and high school students. The high school provides interns to work with both elementary schools.

e) Use of Environments and Resources Outside of Schools: Adams State College provides students to assist with the greenhouse project three times a week. Trinidad State Junior College provides programs for students who want dual credit leading to various professional certification programs. The US Forest Service and BLM provides programs that take the students into the field on a regular basis.

f) Student-Teacher-Curriculum Interaction: Middle school students wrote a $5,000 proposal to the Colorado Department of Education to build a greenhouse. The North Conejos students now work with students from Adams State College to grow herbs in the green house. They then take this into the community and sell their products in the local City Market. Each student keeps a science lab notebook which is reviewed with the teachers on a regular basis. Students are given the opportunity to travel with the teacher to make presentations to community groups.

Ute Four Corners: Ignacio School District

d) Student Support: The Southern Ute Tribe in conjunction with the District produce a "Cradle to Grave" learning environment by providing a pre- and postnatal program to ensure that tribal members have the resources to support their children's cognitive and motor skills development from before birth. They partner with the School District to provide a learning environment throughout the k-12 years and provide post secondary opportunities not only for their members but for the community. To prepare the students for school, the Tribe has initiated a Montessori curriculum, a Family Math and a Math Their Way program in their Head Start Program. The Tribe supports a Read Write Now program and encourages parents to read with their children. The Tribe developed the Educational Excellence Program (grade 3 through the 4th year of college) that is an extended School-to-Career program.

e) Use of Environments and Resources Outside of Schools: Pueblo Community College, the Southern Ute Indian Tribe, the Colorado Division of Wildlife, the EPA and ISD have combed an existing Environmental Science Class with a new Field Techniques and Science Technologies class. Students become a research team, aided and instructed by a science teacher, a technology teacher and tribal and community environmental personnel. Critical thinking, decision making, and technology are integrated with course content as students investigate local river systems. This is a field project to teach environmental issues, ethics, research techniques, technologies, team work communication skills and environmental career options in an applied hands-on manner.

BEST COPY AVAILABLE

f) Student-Teacher-Curriculum Interaction: The Environmental Science and Field Techniques and Science Technologies classes in the middle school have been developed by teachers, students and tribal/community environmental personnel. The new block scheduling supports greater hands-on work by the students and teachers.

New Mexico County: Taos Municipal School District

d) Student Support: The district provides tutoring support in an after school program at least one day per week in collaboration with a community based service learning program, Rocky Mountain Youth Corp. Adult volunteer in the Community Education Program serve as mentors to the elementary students. District support continues to support student participation in local, regional, state, national and international science fairs and New Mexico MESA.

e) Use of Environment and Resources Outside Schools: Joint initiatives have been initiated to enhance education programs in the schools through the rich tri-cultural heritage of the region and its growing reputation as an art and cultural center. These include the concurrent enrollment with UNM-Taos, tutoring and mentoring provided by the Rocky Mountain Youth Corp., mentor training provided by the New Mexico School Community Education Association, after school programs provided by the city and elementary level programs provided by the Millicent Rogers Museum, and participation in Ghost Ranch BioRegional Teacher Training Institutes.

f) Students and teachers regularly review student assessment rubrics and expectations for science and mathematics curriculum plans. Students work in issue groups while teachers act as resources. Portfolios are reviewed on a regular basis both by teacher/parent as well as teacher/student conferences. Student transition issues across educational jurisdictions are addressed through the EPSS, including developing consensus on student success criteria, common assessment tools, and common interpretations of standards.

New Mexico Tribal: Santa Clara Day School

d) Student Support: The partnership with the Santa Fe Indian School has offered Santa Clara Day School students support in the transition to new curricula. A group of SCDS students in grades 4, 5, and 6 and SFIS students work together to learn about the environment of Santa Clara Pueblo as part of an effort to integrate local issues to the science and math curriculum. Visiting scientists from Los Alamos National Laboratory are common on the school campus which gives the students both hands on experiences, role models and a look at career opportunities in the math and science fields.

e) Use of Environments and Resources Outside of Schools: Partnerships with the New Mexico State University and the Smithsonian have supported the school wide enrichment program centered around the Santa Clara Day School Yard Habitat Project. This Digital Desert Library and Seeds of Change Project has Santa Clara Day School on the internet, allowing students and teachers to share their work with schools around the country.

f) Student-Teacher-Curriculum Interaction: All staff and service providers at the Santa Clara Day School are cognizant of the schools goals and objectives in math and science and their directed services to the students reflect this. Special education classes, student council participants and the gifted and talented children all work toward goals that are directly related to the general curriculum in math and science.

Arizona Tribal Coalition: Salt River Pima-Maricopa Community

d) Student Support: Currently, a Service Learning model is in place at SRPMIC. This is the first Service Learning Model on a reservation. The program is highly supportive of students providing individual attention to the learning needs of each child. It is especially important because many reservation school teachers are under-prepared and need professional development on standards-based curriculum implementation. This project allows students to receive individualized instruction from university science students while their teachers receive professional development support

e) Use of Environments and Resources Outside of Schools: In an effort to provide expanded science opportunities to students, the tribe is developing plans to create a greenhouse in a location near the schools that will permit students to engage in science projects as well as to participate in school-to-work activities. Arizona State University is less than 20 minutes from the schools, and, on a weekly basis, students in the botany class visit the school to engage in science activities. Through the eight different School-to-Work partnerships, Desert Eagle has aggressively sought and gained a multitude of resources outside of the school building.

f. Student-Teacher-Curriculum Interaction: The standards-based curriculum developed by the teachers this summer and fall focused on units designed to engage students in identifying and solving problems relevant to them and their community. In this sense, the students are having a voice in the direction of their education within the context of meeting state standards. Salt River students who attended the NASA AISTEC Summer Bridge Program also earned credit for a standards-based earth science course.

Navajo Nation Coalition (now NN RSI): Tuba City Schools

d) Student Support: A variety of activities are supported by the schools in Tuba City that include Math/Science Olympiad, Science Bowls, youth leadership programs. Special events such as the Mars Land Rover sponsored by NASA engaged teachers, students and community members in meaningful activities supporting the need for high expectations for students and the schools' curricula. A comprehensive School-to-Work program provides important career exploration and work opportunities to high school students.

e) Use Of Environment and Resources Outside of Schools: Indian Health Services, the BIA historic landmarks and parks, state programs, NAU, Diné College and the Navajo Nation programs have been accessed to support school programs and to provide educational information classes. Both NAU and Diné College offer college courses for teachers within Tuba City. College faculty also serve as technical resources to the schools.

f) Student-Teacher-Curriculum Interaction: As a result of training received in curriculum alignment/assessment, and National Standards for Science and Math, teachers have become more sensitive to the learning needs of the students they teach. Information from student surveys are used by teachers to design instructional activities which engage students in identifying and solving problems. The Navajo teachers use Navajo language and culture to enhance instruction.

APPENDIX VIII: UCAN Partnerships

Table 6: UCAN Partnerships - Collaborations & Activities

UCAN RSI Collaborations and Partnerships and Associated Activities 1996 to Present	
PARTNER	**ACTIVITY**
Schools/Universities	
UCAN Schools and Districts/Agencies	Variety of activities related to math/science systemic reform.
Adams State College, College of Santa Fe	Graduate level professional development classes and masters programs offered on-site.
Amer. Assoc. of Univ. Women, SLV chapter	Girls in the Middle
ASSET and ASU Service Learning	Facilitated partnerships between these ASU Programs and ATC schools.
Diné College	RC/CA, student attainment, & closing the gap.
Ft. Lewis College	Teacher certification requirements, math and science professional development
Pueblo Community College	Fifth year program, adult college courses, teacher preparation courses and space for the Career Ladder Program.
UNM, NMHU, Northern NM Community College	Development & use of distance learning system. Provision of professional development to school. Annual technology institute for schools.
Fish & Wildlife Service	RC/CA, policy, closing the gap, broad based support
Businesses, Foundations, Educational Organizations/Consortia	
AISTEC (American Indian Sci Tech Ed Consortium)	Provision of "circuit riders" in math and science to schools.
Coalition of Educators for NA Children (CENAC)	Planning & execution of staff professional development. Community involvement in curriculum planning. Resource convergence.
Community Controlled School Directors	RC/CA, workshop participation & closing the gap.
One to One Learning Foundation	Integration of technology into the classroom curriculum. Resource convergence.
Operation Healthy Communities	Search conference, at risk youth activities.
Panasonic Foundation	Improving capacity of school teams to implement quality EPSS by providing technical assistance and outside expertise focused on a standards-based curriculum.
Third International Math & Sci Society	Technical assistance.
US West	Technical Assistance
State, Tribal or Federal Agencies	
Bureau of Indian Affairs (BIA)	Integration of computers and internet into the classroom curriculum. Resource convergence. Direct funding.
BIA/NASA/NSTA	Recruit teacher teams for summer workshops at two of the NASA research stations.
DOE Labs, LANL, SNL, NREL	Developing action plan to enhance activity in coalitions. PD services through lab education outreach.

BEST COPY AVAILABLE

Johnson O'Malley Program	In-house DODE Management Team
NACCSB Association	RC/CA, workshop participation, & closing the gap.
NASB Association	RC/CA, workshop participation & closing the gap of BIA schools.
NM State Department of Education	Providing communities and schools w/information on state policies via distance education process. Amending state policies on student assessment to include 1-8 Terra Nova testing instead of only grades 4, 6, 8. School accountability model.
North Central Assoc,Navajo Nation State Off	In-house DODE Management Team
Off of Dine Tech Asstnce & Assessment Se	In-house DODE Management Team
Office of Dine Culture & Language Prog	In-house DODE Management Team
Office of Teacher Education Progs (OTEP)	Clerical/secretarial assistance. Processing of budget/financial paperwork. Director's time at 50%.
State of New Mexico Special Projects	Execution of staff professional development. Resource convergence.
The Three Ute Tribes	Educational Excellence, content reading programs, science fairs, career fairs, Discovery Camp.
Educational Initiatives, Education Laboratories	
Annenberg Rural Challenge Grant	Planning & execution of staff professional development. Community involvement in curriculum planning. Resource convergence.
CETP, NM & CO	Liaison between teams (NM). CO serves on UCAN team. AZ made initial contact. NM TIMMS Workshop.
COAMP - NMAMP, RMTEC, NASA, SSEOP	Serve on Advisory Boards
Colorado School-to-Career	Regional S to C conference; evaluation strand of Conference
CONNECT	1) Collaborations in math and science professional developments. 2) SLV Math/Science networking; CO State Knowledge Bowl
Dept. of Ed Labs, SEDL, WestEd, McRel	1) Liaison on team. PD opportunities. Planning ongoing. Direct Involvement in coalition activity. 2) Planning & delivery of PD and TA in standards-based math & science. Also assessment, culturally diverse students & conflict resolution PD & TA.
Education Trust	Standards in practice workshops.
Eruditio (US West/NEA Project)	Recruit eligible teachers from ATC schools for two year long project.
REEP	RC/CA, workshop participation, & closing the gap.
NM Regional Center Cooperatives #2 and #4	Development of regional structure to sustain provision of professional development to area schools. Collaborators for Goals 2000 funding ($166,000).

ReLearning NM	Provides 10 days of match for professional development at local level. Curriculum & assessment, RC/CA, Consultants, Inc.
School to Careers	Professional developments, systemic reform presentations to school boards and community, search conference partner.
SouthWest Comprehensive Center	1) Design of a data retrieval system to audit school sites relative to student profiles and capacity of system to deliver quality education. Virtual library development. 2) Work with Duchesne Schools' Steering Committee K-12 articulated curriculum. 3) Liaison between teams. Collab w/NMSDE & RTAPS - develop model/Utah Rural Ed Conf. Participated in annual planning.

PARTNERS/COLLABORATORS

Businesses, Foundations, Educational Organizations/Consortia
AISTEC (American Indian Sci Tech Ed Consortium), Coalition of Educators for NA Children (CENAC), Community Controlled School Directors, One to One Learning Foundation, Operation Healthy Communities, Panasonic Foundation
Third International Math & Science Society, US West

Educational Initiatives, Education Laboratories
Annenberg Rural Challenge Grant, CETP (NM & CO), COAMP (NMAMP, RMTEC, NASA, SSEOP), CONNECT, Dept. of Ed Labs (SEDL, WestEd, McRel), Education Trust, Eruditio (US West/NEA Project), REEP, NM Regional Center Cooperatives #2 and #4, ReLearning NM, School to Careers, SouthWest Comprehensive Center

Schools/Universities
Adams State College, Amer. Assoc. of Univ. Women, SLV chapter, ASSET and ASU Service Learning, College of Santa Fe, BIA Agency Superintendents, Central Consolidated School, Dennehotso Boarding School, Dine College, Ft. Lewis College, Fish & Wildlife Service, NMHU, Northern NM Comm College, Private School Principals, Public School Superintendents, Pueblo Community College, Tuba City School Dist (K-12), UNM, Window Rock Unif Sch Dist #8

State, Tribal or Federal Agencies
Bureau of Indian Affairs (BIA), BIA/NASA/NSTA, DOE Labs (LANL, SNL, NREL), Johnson O'Malley Program, NACCSB Association, NASB Association, NM State Department of Education, North Central Association (Navajo Nation State Office), Office of Dine Technical Assistance & Assessment Services, Office of Dine Culture & Language Program, Office of Teacher Education Progs (OTEP), State of New Mexico Special Projects, The Three Ute Tribes